

## Joint Workshop on Slow earthquakes, 2014:

### “The prospects for studies of slow earthquakes toward Nankai Megaquake predictions and disaster preventions”

Scope:

We focus on understanding of slow earthquake itself, and relationships between slow earthquakes and megathrust event, such as a future Nankai-Tonankai earthquake. We also focus on seismic and geodetic monitoring of slow earthquake at sea-bottom as well as landward.

Venue: Kihada hall, Uji campus, Kyoto University

[http://www.uji.kyoto-u.ac.jp/english/access\\_e.html](http://www.uji.kyoto-u.ac.jp/english/access_e.html)

Date: September 8–10, 2014

Conveners: Yoshihiro Ito, Hitoshi Hirose, Kazushige Obara

This workshop is supported by Joint Usage/Research Center Programs of DPRI Kyoto University and ERI The University of Tokyo, J-DESC feasibility study, JSPS KAKENHI Specially Promoted Research and Scientific Research (A).



Uji Campus, Kyoto University



## Agenda

Sep. 8th, Official language: JAPANESE [Slides written in English are recommended]

(Chair: Yoshihiro Ito)

13:00-13:25 (J01), Akio Fujita/藤田明男, Temporal variation of coupling distribution around slow slip zone in southwest Japan/西南日本のスロースリップ発生域における固着分布の時間的变化

13:25-13:50 (J02) Kazuki Miyaoka/宮岡一樹, Slow slip monitoring by stacking method of strain data/ひずみ計データのスタッキングによるゆっくりすべり監視

13:50-14:15 (J03) Akio Kobayashi/小林昭夫, 四国中部・東部で発生した小規模な長期的スロースリップ

14:15-14:40 (J04) Kazuhiro Kimura/木村一洋, The change except the Short term Slow Slip Events at the Tokai region that JMA's strainmeters may detect/気象庁のひずみ計に見られる東海地域の短期的スロースリップ以外の変化

14:40-15:05 (J05) Aitaro Kato, Detection of a hidden Boso slow slip event immediately after the 2011 Mw 9.0 Tohoku-Oki earthquake, Japan

Coffee Break (15 min.)

(Chair: Hitoshi Hirose)

15:20-15:45 (J06) Satoshi Itaba/板場智史, Generation conditions of triggered slow slip events /短期的 SSE が誘発される条件

15:45-16:10 (J07) Yusuke Yamashita, Migration episode of shallow low-frequency tremor at the Nankai Trough subduction zone

16:10-16:35 (J08) Kensuke Suzuki, Synchronous changes in the seismic activity and ocean-bottom hydrostatic pressure off the Kii Peninsula

16:35-17:00 (J09) Michiyo Sawai, Depth limits of slow slip events at the Japan Trench: Insights from high temperature and pressure friction experiments

Sep. 9th, Official language: English

(Chair: Hitoshi Hirose)

8:45-9:10 (I01) Kazushige Obara, Ambient Tremor Triggered by Long-term Slow Slip Event in Bungo Channel, Southwest Japan

9:10-9:35 (I02) Yoko Tu, The connections and variations between recurrent slow slip events and very low frequency earthquakes near the southwestern Ryukyu subduction zone

9:35-10:00 (I03) Akiko Takeo, Estimation of moment release in the very low frequency band during episodic tremor and slip

10:00-10:30 (I04) Ken Creager, (Keynote) Review of Cascadia Slow Slip and Tremor

Coffee Break (15 min.)

(Chair: Kazushige Obara)

10:45-11:10 (I05) Heidi Houston, Response of tremor and slow slip to tidal stress: Constraints on fault friction and weakening

11:10-11:35 (I06) Suguru Yabe, The spatial variation of tidal sensitivity of tectonic tremors

11:35-12:00 (I07) Kosuke Heki, Post-3.11 acceleration of the Pacific Plate: First direct evidence

Lunch (1 hour)

(Chair: Ryota Hino)

13:00-13:25 (I08) Tomoaki Nishikawa, Tectonic controls on earthquake size distribution and seismicity rate

13:25-13:50 (I09) Roy Hyndman, ETS Tremor and Slip at Cascadia, SW Japan, and Mexico: Subducting Plate Fluids Channelled Updip to the Forearc Mantle Corner and Silica Deposition

13:50-14:15 (I10) Nobuaki Suenaga, Relations among temperature, dehydration of the PHS plate, and the three seismic events in the Tokai district

14:15-14:45 (I11) Vladimir Kostoglodov, (Keynote) Diversity of Slow Slip Events and Nonvolcanic Tremor in Guerrero, Mexico

14:45-15:10 (I12) Takuya Nishimura, Interplate coupling and its spatial relation with slow slip events along the Nankai Trough

Coffee Break (15 min.)

(Chair: Yoshihiro Ito)

15:25-15:55 (I13) Takeshi Iinuma, Interplate coupling beneath NE Japan before the 2011 Tohoku Earthquake

15:55-16:20 (I14) Ryota Hino, Postseismic motion of the high-slip shallow fault during the 2011 Tohoku-oki Earthquake

16:20-16:50 (I15) Stephen Bannister, (Keynote) Diverse SSE and seismicity behaviour on the Hikurangi subduction zone, New Zealand

16:50-17:20 (I16) Anne Sheehan, (Keynote) Alpine Fault Tectonic tremor recorded by MOANA project ocean bottom seismometers, South Island, New Zealand

17:20-17:45 (I17) Erin Todd, Coulomb stress variations associated with slow slip, tectonic tremor, and seismicity along the northern Hikurangi Margin, New Zealand

18:00-20:00 Reception (Café Restaurant Kihada, Uji Campus, Kyoto University)

Sep. 10th, Official language: English

(Chair: Hitoshi Hirose)

8:45-9:10 (I18) Yoshihiro Ito, Transient crustal deformation due to slow slip observed on ocean bottom pressure recorders in the Hikurangi margin

9:10-9:35 (I19) Takeshi Tsuji, Pore pressure distribution of a mega-splay fault and seaward plate boundary decollement in the Nankai Trough subduction zone: Up-dip extent of the seismogenic zone?

9:35-10:00 (I20) Yoshitaka Hashimoto, Geological signature of slow slip in on-land accretionary complex using vitrinite reflectance

10:00-10:25 (I21) Yasuhiro Yamada, Drilling to fault zone: what we can get from there?

Coffee Break (15 min.)

(Chair: Takuya Nishimura)

10:40-11:10 (I22) Kelin Wang, (Keynote) On the geology of slow slip events

11:10-11:40 (I23) Martin Vallée, (Keynote) Intense seismic activity associated with slow slip in the Central Ecuador subduction zone

11:40-12:05 (I24) Aitaro Kato, Multiple slow-slip events during a foreshock sequence of the 2014 Iquique, Chile Mw 8.1 earthquake

Lunch (1 hour)

(Chair: Kazuaki Ohta)

13:00-13:30 (I25) Yoshihiro Kaneko, (Keynote) Insights into the mechanism of fault creep from geodetic observations and earthquake-cycle simulations

13:30-13:55 (I26) Yingdi Luo, Slow to Fast Earthquake Transition Introduced by Fault Heterogeneity

13:55-14:20 (I27) Teruo Yamashita, Why do slow earthquakes occur favorably in hot subduction zones?

14:20-14:45 (I28) Benchun Duan, 3D dynamic rupture simulations of a megathrust fault with a subducted seamount

14:45-15:10 (I29) Takanori Matsuzawa, Numerical simulation of long- and short-term slow slip events in the Nankai subduction zone

15:10-15:35 (I30) Ryosuke Ando, Theoretical relationship between tremor migration patterns and rheology on heterogeneous faults

Coffee Break (15 min.)

(Chair: Yoshihiro Ito)

15:55-16:20 (I31) Kazuaki Ohta, Slip inversion for deep tremor

16:20-16:45 (I32) Satoshi Annoura, Seismic wave radiation energy of deep low-frequency tremor in the Nankai subduction zone

16:45-17:10 (I33) Masaki Kanao, Ice sheet dynamics and glacial earthquake activities in Greenland

17:10-17:35 (I34) Fekadu Aduna Duguma, Assessing volcanic hazards from future eruptions of Chabbi volcano, Central Main Ethiopian Rift, Ethiopia

17:35-18:00 (I35) Naofumi Aso, Modeling and Observations of Deep Volcanic Long-Period Earthquake